AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated hereafter.

The following is a copy of Applicants' claims that identifies language being added with underlining ("____") and language being deleted with strikethrough ("~~—~~") or placed in double brackets ("[[ ]]"), as applicable:

1. (Currently Amended) A method for uplink burst equalization in broad wide access system, in which an equalizer uses a decision feedback equalizer, comprising the following steps of:

~~Step 1,~~ pre-training process[[:]] including ~~before transmitting user data,~~ sending training sequence[[,]] and training the equalizer before transmitting user data;

~~Step 2,~~ channel tracking process[[:]] including recording coefficient after convergence of the equalizer, starting transmitting the user data, and the equalizer tracking wireless channel for channel changes;

~~Step 3,~~ if channel changes result in an error rate exceeding a first threshold [[1]] but not exceeding a second threshold [[2]], entering into a burst equalization process; and

~~Step 4,~~ entering into the pre-training process again if the channel changes result in an error rate exceeding the second threshold [[2]];

wherein said first threshold is a critical point when the changing speed of the channel exceed the tracking speed of the equalizer; said second threshold is a threshold bit error rate corresponding to a receiver.

2. (Currently Amended) The method for uplink burst equalization in broad wide access system of claim 1, ~~with characterized in that~~ wherein said pre-training process uses long known sequence as reference sequence to perform said training the equalizer.

3. (Currently Amended) The method for uplink burst equalization in broad wide access system of claim 1, wherein said burst equalization process further comprises the following steps of:

~~first~~ using pre-amble of a burst data package as the reference sequence, performing channel estimation in a zero correlation domain, ~~then~~ calculating initial coefficient value of equalizer according to channel estimation, and pre-loading the calculated initial coefficient value into the equalizer, and using the pre-amble and part of the user data as the reference sequence to train the equalizer, making the equalizer convergent sufficiently; after the training, the equalizer using the ~~decided~~ user data as the reference sequence to equalize the user data, and outputting decision information.

4. (Currently Amended) The method for uplink burst equalization in broad wide access system of claim 3, wherein, said pre-amble employs Newman-Holfman sequence of 16 bits, and employs a BPSK modulation form; said channel estimation ~~process~~ further includes the steps of: ~~firstly,~~ generating local reference signal of the pre-amble locally, which is bilateral cycle spreading signal of the pre-amble; ~~secondly,~~ sampling the received signal which the pre-amble corresponds to, ~~then~~ <u>and</u> performing correlation operation between the sampled signal corresponding to the pre-amble and the local reference signal, therefore finishing the channel estimation.

5. (Currently Amended) The method for uplink burst equalization in broad wide access system of claim 3, wherein the pre-amble employs M sequence, said channel estimation includes steps of: ~~firstly,~~ local reference signal for generating the pre-amble being bilateral cycle spreading signal of M sequence, and the local reference signal of the pre-amble being a sequence composed of 1 and 0; ~~secondly,~~ sampling received signal which the pre-amble corresponds to, ~~then~~ <u>and</u> performing correlation operation between the sampled signal corresponding to the pre-amble and the local reference signal, therefore finishing the channel estimation.

6. (Currently Amended) The method for uplink burst equalization in broad wide access system of claim 3, wherein, said calculating the initial <u>coefficient</u> value of equalizer ~~coefficient~~ further includes the steps of:

calculating tap coefficient initial value of a forward filter:

$c(0) = h^*(0)/|h(0)|^2 = 1/h(0)$, other coefficients are 0;

calculating tap initial coefficient value of a backward filter:

$$[b(1)\, b(2) \cdots b(B)] = h^*(0)/|h(0)|^2 \times [h(1)\, h(2) \cdots h(B)] = 1/h(0) \times [h(1)\, h(2) \cdots h(B)];$$

in which, **h** represents channel impulse response vector, **c** represents coefficient vector of the forward filter of the decision feedback equalizer, **b** represents coefficient vector of the backward filter, B is the length of the coefficient vector of the backward filter, in which, a pulse with the biggest amplitude is h(0), a previous impulse response pulse is [h(-n) h(-n+l) . . . h(-l)], a subsequent impulse response pulse is [h(l) h(2) . . . h(n)]; the coefficient of the forward filter and the coefficient corresponding to the subsequent impulse response pulse in the equalizer is [c(-n) c(-n+l) . . . c(-l)], the coefficient corresponding to the previous impulse response pulse is [c(l) c(2) . . . c(n)].

7. (Currently Amended) The method for uplink burst equalization in broad wide access system of claim 3, wherein said training equalizer further includes the steps of:

~~firstly,~~ using the pre-amble as the reference sequence to perform warm-up training for at least two times to the equalizer, after the warm-up training, most of the decision outputs being ~~right~~ correct; ~~secondly,~~ and inputting part of the user data into the equalizer as the reference sequence for further training, till the equalizer being convergent completely.

8. (Canceled)

9. (Currently Amended) The method for uplink burst equalization in broad wide access system of claim 8, wherein the value of the first threshold [[1]] is the sum of the average of error rate of five continuous burst data packages and twice the biggest absolute value of error rate variable; a typical value of the second threshold [[2]] is 10^{-3}.